

MRI anatomy of the normal canine elbow

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Objectives: To describe the normal anatomy of the soft tissues stabilizing the canine elbow observed by magnetic resonance imaging (MR).

Study design: Descriptive study.

Animals: Cadavers of large breed dogs (n=3).

Methods: Immediately after euthanasia, T1- and T2- weighted MR images of both elbows of each dog were made in sagittal, transverse, and dorsal planes. Elbows were removed from the cadavers, embedded in a water bath, and frozen. Slab sections of the frozen elbows were obtained and matched with the MR images.

Results: On anatomic sections, all musculoskeletal structures could be identified. T1-weighted MR images provided the best anatomic detail whereas T2-weighted MR images were best for synovial cavities. All musculoskeletal structures identified on the anatomic sections were visible on the MR images. The flexor tendons were best seen on the images in the sagittal and dorsal planes whereas the flexor carpi ulnaris tendon was best seen on the transverse images. The extensor tendons and the lateral collateral ligament were visible on the images in transverse and dorsal planes. The biceps brachii and triceps muscles and tendons were best seen on the sagittal MR images.

Conclusions: MR is a useful imaging technique to observe the soft tissues of the canine elbow.

Clinical relevance: This anatomic atlas could be used as a guide for interpretation of MR images of elbow disorders such as tendon, ligament or muscle injuries.

